APPARATUS AND METHOD FOR MODELING QUEUEING SYSTEMS WITH HIGHLY VARIABLE TRAFFIC ARRIVAL RATES

ABSTRACT OF THE DISCLOSURE

An apparatus and method are provided for modeling queuing systems with highly variable traffic arrival rates. The apparatus and method include a means to associate a value with a pattern of highly variable arrival rates that is simple and intuitive, and a means to accurately model queuing delays in systems that are characterized by bursts of arrival activity. The queuing delay is determined by a sum of queuing delays after first applying a weighting factor to the queuing delay based upon a random arrival rate, and a different weighting factor to the queuing delay based upon a bursty variable arrival rate. The weighting factors are variants of the server utilization. The model facilitates specification of server characteristics and configurations to meet response time metrics.

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